

PRELIMINARY AMENDMENT

PATENT APPLICATION

Continuation of

Appln. No. 09/231,570

Sub B1
A1 cont
diastolic depolarization threshold, below the diastolic depolarization threshold or above the diastolic depolarization threshold, wherein each pulse of biphasic pacing stimulation comprises:

a first stimulation phase with a first phase polarity, a first phase amplitude, a first phase shape and a first phase duration; and

a second stimulation phase with a second phase polarity, a second phase amplitude, a second phase shape and a second phase duration; and

determining whether pacing capture has occurred.

2. (Amended) The method of operating an implantable cardiac stimulator as in claim 1, wherein it is determined that capture has not occurred, further comprising:

increasing the stimulation intensity level by predefined increments until capture occurs.

A2
Sub B1
4. (Amended) The method of operating an implantable cardiac stimulator as in claim 1, wherein it is determined that capture has occurred, further comprising:
halting biphasic pacing stimulation.

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A2 cont
5. (Amended) The method of operating an implantable cardiac stimulator as in claim 1, wherein the first phase polarity is positive.

A3 Sub B1
15. (Amended) The method of operating an implantable cardiac stimulator as in claim 1, wherein the first phase duration is at least as long as the second phase duration.

Add new claims 30-39 as follows:

A4 Sub B1
-- 30. The method of operating an implantable cardiac stimulator as in claim 1, wherein the first stimulation phase is initiated greater than 200 milliseconds after completion of a cardiac beating cycle.

31. The method of operating an implantable cardiac stimulator as in claim 1, wherein the first stimulation phase comprises an anodal stimulus.

32. An implantable cardiac stimulator to perform cardioverting, the cardiac stimulator comprising:
sensing means for sensing the onset of tachycardia;
output means for delivering, in response to the sensing means, electrical stimulation of a predetermined polarity, amplitude, shape and duration to cause application of pulses of

Sub
B1
A4
cont

biphasic pacing stimulation at a first intensity level selected from the group consisting of: at the diastolic depolarization threshold, below the diastolic depolarization threshold, and above the diastolic depolarization threshold; and

means for determining whether capture has occurred;

wherein each pulse of biphasic pacing stimulation comprises:

a first stimulation phase with a first phase polarity, a first phase amplitude, a first phase shape and a first phase duration; and

a second stimulation phase with a second phase polarity, a second phase amplitude, a second phase shape and a second phase duration.

33. The cardiac stimulator as in claim 32, wherein in the event that the means for determining determines that capture has not occurred, the output means increases the stimulation intensity level by predefined increments until capture occurs.

34. The cardiac stimulator as in claim 32, wherein in the event that the means for determining determines that capture has occurred, the output means halts biphasic stimulation.

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35. The cardiac stimulator as in claim 32, wherein the first stimulation phase comprises an anodal stimulus.

36. The cardiac stimulator as in claim 32, wherein the first phase duration is at least as long as the second phase duration.

37. An implantable cardiac stimulator device comprising:
plural electrodes;
sensing circuitry connected to the plural electrodes and adapted to sense the onset of tachycardia;
detecting circuitry connected to the sensing circuitry and adapted to detect whether pacing capture has occurred; and
pulse generating circuitry connected to the plural electrodes and adapted to generate, in response to the sensing circuitry, electrical pulses of a predetermined polarity, amplitude, shape and duration to cause application of pulses of biphasic pacing stimulation at a first intensity level selected from the group consisting of: at the diastolic depolarization threshold, below the diastolic depolarization threshold, and above the diastolic depolarization threshold; and